

## ABSTRACT OF THE DISCLOSURE

A waveform equalization controller which combines a follow-up property when the distortion is varied and there is a higher convergence speed at the initial operation, and a higher stability at a low C/N time, and which realizes a high performance and a low cost in a waveform equalizer. The waveform equalization controller controls the updating of a tap coefficient, and comprises a waveform equalizer for reducing a transmission line distortion of an input signal based on a LMS algorithm, an error estimation unit for estimating an error signal from an output signal of the waveform equalizer and outputting the error signal, a step size decision unit for generating a step size having an arbitrary size and outputting the step size, and a coefficient updating amount calculation unit for calculating a tap coefficient updating amount based on the error signal, the step size and a tap coefficient updating data.